

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010383**Date Inspected:** 26-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Crossbeams**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG CROSS BEAM CB1

This crossbeam appears to be complete and has been loaded on the ship.

OBG CROSS BEAM CB2

This crossbeam appears to be complete and has been loaded on the ship.

OBG CROSS BEAM CB3

This crossbeam appears to be complete and has been loaded on the ship.

OBG CROSS BEAM CB4

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

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OBG CROSS BEAM CB5

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB6

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB7

This QA observed ABF QA inspector identified as Mr. Shen Rushan perform Final Visual Testing (FVT) on this crossbeam. Several of the contractors personnel were performing repairs in the areas that Mr. Shen had marked. The repairs were being performed by grinding. Although a welder was present and appeared to be on standby, this QA did not observe any repair by welding performed during the time this QA was present.

NOTE: ZPMC QA identified as Mr. Zhang Wei had issued a segment green tag notification on 10/23/09 for Caltrans QA to perform Magnetic particle Testing (MT) on tags 1~9 on this crossbeam. The notification number was 004458. Caltrans QA inspectors Mr. D. Sukanthan and Mr. S. Kumar were dispatched to perform the requested NDT. Upon arrival, Mr. Sukanthan and Mr. Kumar performed the required VT prior to MT. The QA inspectors discovered numerous welds that appeared to be noncompliant to the contract documents. Mr. Sukanthan discovered what appeared to be a longitudinal crack like linear indication in the crater area of weld joint CB201G-013-185. Mr. Sukanthan verified the indication using the MT Non Destructive Testing (NDT) method. Soon after Caltrans QA findings, ZPMC QA Mr. Zhang Wei canceled the MT NDT notification for this crossbeam until further notice. Mr. Sukanthan later relayed to this QA that ABF inspectors on site indicated to him that they (ABF) had not performed their NDT of this crossbeam. Mr. Sukanthan issued an incident report concerning the crack like indication discovered after ZPMC had accepted this weld.

NOTE 2: Per contract, ZPMC is only required to perform 10% to 25% MT of the fillet welds on the OBG crossbeams, however, due to the fact ZPMC MT technicians discovered numerous crack like indications on crossbeam CB7 in the shop, ZPMC, per contract requirements, performed 100% MT of all the fillet welds on this crossbeam.

OBG CROSS BEAM CB8

This QA observed the contractor has moved this crossbeam from sub assembly bay 6 and relocated it outside in the area behind OBG assembly bay 13. This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB10

This QA was informed by Caltrans QA Mr. D. Sukanthan that ABF QA inspectors were observed performing additional Ultrasonic Testing (UT) of welds CB202A-010-005 and CB202A-010-017 on 10/25/09. This QA observed today that ABF appeared to have performed a "D" scan of these welds to detect transverse indications.

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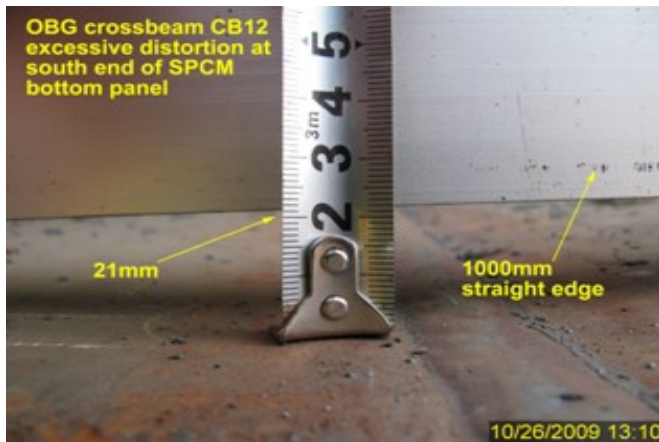
This QA observed ABF inspectors appear to have marked 8 locations on each of the above mentioned welds. This QA noted that both of these welds are designated on the approved shop drawings as Fracture Critical Welds (FCW).

OBG CROSS BEAM CB12

This QA observed excessive distortion on the bottom panel of this crossbeam. The bottom panel is designated on the approved shop drawings as SPCM. The distortion appears to have been created when the bottom panel was spliced and welded in subassembly. It appears as though the contractor did not attempt to straighten the material prior to incorporating the panel into the crossbeam component. Caltrans Standard specifications 55-3.02 STRAIGHTENING MATERIAL specifies “Rolled material before being laid out or worked shall be straight. Subassemblies and completed members shall be straight before being incorporated into the work”. This QA notified ZPMC QA identified as Mr. Zhang Wei and ABF inspector identified as Mr. Kelvin Cheung of this issue and informed both that an incident report would be generated. See attached photos.

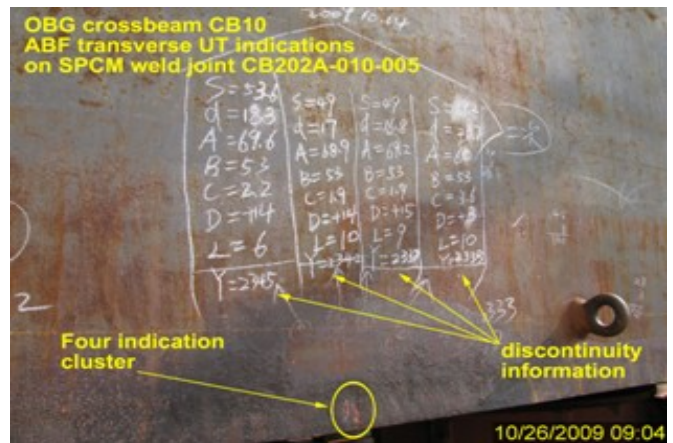
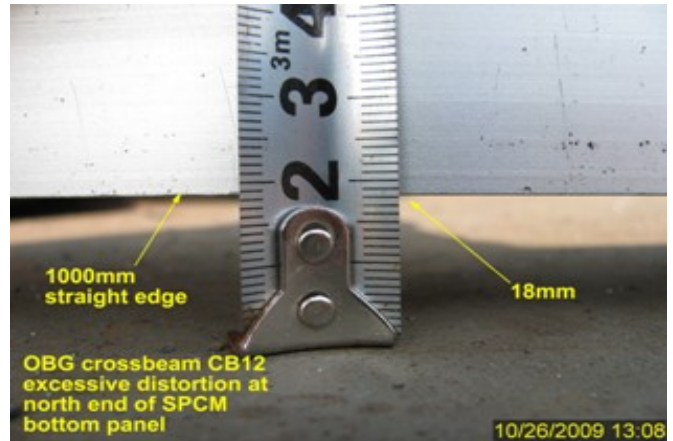
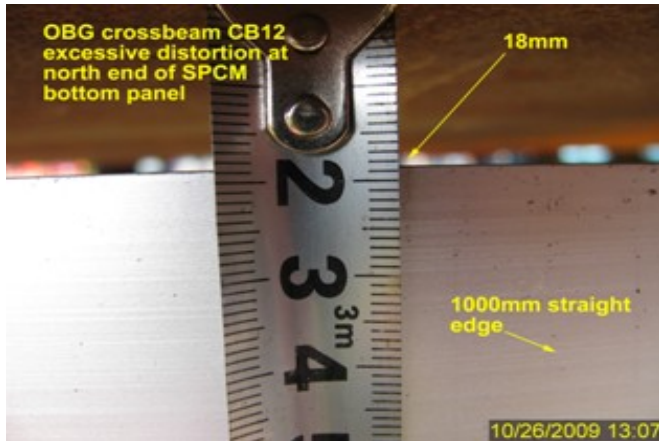
During random visual inspection of the welding on this crossbeam this QA observed numerous welds that do not appear to meet the weld profile requirements specified in the contract documents. This QA noted that ZPMC and ABF have not yet performed FVT and NDT on this crossbeam. This QA photographed a number of these noncompliant welds and included them in this report for the purpose of capturing the in-process workmanship being performed on this crossbeam.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



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Summary of Conversations:

As mentioned above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (15000422372), who represents the Office of Structural Materials for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Patterson,Rodney	QA Reviewer
